

〈原著〉

可視光と化粧品 (第II報)

皮膚明度におよぼす市販クリームの影響

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Visible Light and Cosmetics (II): Effects of Commercial Creams on the Skin Lightness

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Abstract

There have been a few reports from the market that sometimes the application of cosmetic products could make the complexions of the users appear darker. However, as we reported previously, the light transmission through stratum corneum could increase with an application of commercial creams and lotions. While the increased light transmission might make the skin appear darker, it was not clear if the darkening was due to an increase in pigments of skin or simply due to an increase in the transparency of stratum corneum through the applications of these products. To determine the exact causes of darkened appearance, the effects of commercial creams on the optical properties of skin were investigated by means of a reflectance meter. The lightness on the test systems including the hyperpigmented and normal sites in the patients with chloasma and the black plate system with isolated stratum corneum of rabbit were measured before (Lb) and after (La) the application of creams and their differences ($d = Lb - La$) were analyzed statistically.

- 1) On the clinical observation of subjects who complexions were said to have become dark by use of commercial creams, there was no evidence that any melanization was induced by the creams used by the subjects.
- 2) A cream reduced significantly the lightness on the hyperpigmented and normal sites in the patients with chloasma.
- 3) Commercial creams which increased the light transmission through stratum corneum, also reduced markedly the lightness on the model system without melanogenesis and immediate pigment darkening (IPD).

These results show that the test creams cause the lightness reduction on the skin and the system without melanization and IPD. Accordingly, it is suggested that the creams induce the temporary optical darkening; namely, the complexion of the subjects merely appears visually darker.

Key Words

1. Lightness reduction
2. Darkened complexion
3. Increased light transmission
4. Commercial creams